

II. REMARKS

Preliminary Remarks

This response is timely files as the deadline for taking action (no fee due) is today, March 4, 2003. After entry of the foregoing amendment, claims 39-42 will be at issue, which find direct support in the application as originally filed. No new matter is believe to have been introduced herein by the foregoing amendment.

The applicants would like to thank the examiner for the courtesy shown the undersigned during a teleconference conducted on March 3, 2003, wherein discussions centered on amendments to the claims to place the application in a condition for allowance.

The applicants have noted the examiner's comments with respect to the acknowledgment of priority and that the supporting documents are of record, but not presented in English. The applicants have enclosed herewith one certified copy each of DE 100 44 755.4 and DE 101 12 105.0. The applicants request that the examiner acknowledge the submission of such documents and request entry of such documents into the official record.

At page four of the official action, the examiner objected to the specification in that the title is allegedly not descriptive. The applicants request the withdrawal of the rejection in that the applicants have adopted the examiner's suggestion (see foregoing amendment).

Also at page four of the official action, the examiner objected to the abstract of the disclosure. The applicants also request the withdrawal of this rejection in view of the foregoing amendment to the abstract.

The examiner, in paragraph 10 of the official action, raised various objections to the specification. The applicants also request the withdrawal of these rejections in that each objection has been specifically addressed by the foregoing amendment.

Finally, in paragraph 11 of the official action, the examiner objected to claim 5, asserting that the claim fails to further the limit the subject matter of a previous claim. The applicants submit that this object is now moot in that the claim has been canceled by the foregoing amendment and further that a similar claim has not be re-introduced. The applicants request the withdrawal of the this objection.

Patentability Remarks

35 U.S.C. §112, Second Paragraph

The examiner rejected claims 1-3, 5, 6 and 17 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter that applicants regard as the invention. The examiner has requested clarification. Further, the examiner suggested use of the phrase --native to-- for clarity.

With respect to item c) of claim 1, the examiner alleged indefiniteness as the claim calls for a complementary sequence while the preamble of the claim requires the polynucleotide to "code for the luxS gene" and the complement of a coding does not encode a gene. This confusion renders both the phrase "which codes for the luxS gene" and item c) unclear. Again the examiner request clarification.

Regarding use of the term, "preferably," the examiner alleged indefiniteness in that the term renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). By virtue of this confusion, no functionality can be ascribed to the claimed polynucleotides. The examiner requested clarification.

Concerning claim 5, the examiner asserted that the phrase "within the range of degeneration of the genetic code" is unclear, the phrase "and optionally" is confusing, and the phrase "sense mutations of neutral function in (i)" is unclear.

Regarding claim 6, the examiner asserted that the antecedent basis of the term "the hybridization" is unclear.

With respect to claim 9, the examiner alleged that the indentations titled "9.1," "9.2," etc. are confusing.

Finally, the examiner rejected claim 17 for use of the allegedly unclear phrase "which carries parts of the polynucleotide but at least 15 successive nucleotides of the sequence as claimed in claim 1."

The applicants respectfully traverse and submit that the rejections based upon 35 U.S.C. § 112, second paragraph are now moot. In order to expedite prosecution and without prejudice to the applicants right to seek the originally filed claims in a duly filed continuing application, the applicants have introduced new claims 20-41, which do not contain the language referred to by the examiner (see directly above). In view of the foregoing, the

applicants request that the rejection of the claims under 35 U.S.C. § 112, second paragraph be withdrawn and not be extended to new claims 20-41.

35 U.S.C. § 112, First Paragraph

The examiner rejected claims 1-3, 5, 6 and 17 under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Claim 1 is directed to polynucleotides having a particular, variable structure, having at least 15 nucleotides of a polynucleotide that is at least 70% identity to a polynucleotide that encodes SEQ ID NO:2 while having no defined function. The phrase "codes for the luxS gene" does not give a clear, functional limitation to the claims as noted above; the phrase "preferably having . . . histidine kinase activity" also does not give a clear, functional limitation to the claims as noted above.

The examiner also rejected claims 1-3, 5, 6 and 17 under 35 U.S.C. § 112, first paragraph, as allegedly being broader than the enabling disclosure. Specifically, while being enabled for polynucleotides with at least, for example, 90% sequence identity to a polynucleotide that encodes SEQ ID NO:2, does not reasonably provide enablement for polynucleotides with such low sequence identity, such as the 70% identity claimed. The amount of experimentation required of one of skill in the art to use the claimed invention to the full extent of its scope is undue.

With respect to claim 9, the examiner has required a declaration of biological deposit. Claim 9 complying with 37 C.F.R. § 1.801 – 1.809.

The applicants respectfully traverse and submit that the rejections based upon 35 U.S.C. § 112, first paragraph are now moot. In order to expedite prosecution and without prejudice to the applicants right to seek the originally filed claims in a duly filed continuing application, the applicants have introduced new claims 20-41, which do not contain the language referred to by the examiner (see directly above). Further, the applicants request that the examiner note and make of record the enclosed declaration of biological deposit. In view of the foregoing, the applicants request that the rejection of the claims under 35 U.S.C. § 112, first paragraph be withdrawn and not be extended to new claims 20-41.

35 U.S.C. §102(a)

The examiner rejected claims 1-7 and 17 under 35 U.S.C. § 102(a) as allegedly being anticipated by Nakagawa et al. (EP 1108790 – see IDS). The examiner asserted that Nakagawa et al. teach a polynucleotide (sequence 3239) that is 100% identical to SEQ ID NO:1 in the instant application (see attached alignment). Nakagawa et al. also teach vector and host cells containing the disclosed sequences, particularly coryneform host cells (see page 22).

The applicants traverse and submit that EP 1108790 is not available as prior art against the present application in view of its publication date of June 20, 2001. The present application claims priority to an application filed September 9, 2000, and an application filed March 14, 2001. In support of this claim, the applicants, as discussed above, have enclosed herewith a certified translation of both priority documents.

In view of the foregoing, the applicants request that the rejection of the claims under 35 U.S.C. § 102(a) be withdrawn and not be extended to new claims 20-41.

35 U.S.C. § 102(b)

Claims 1-2 and 5-6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Birren et al. (GenBank Accession Number AC018367. Homo sapiens clone RP11-46B20. Published March 28, 2000). The instant claims are drawn to DNA molecules having at least 15 consecutive nucleotides of SEQ ID NO:1 and that hybridizes to SEQ ID NO:1.

Birren et al. teach a DNA sequence wherein a 22-mer portion exactly matches SEQ ID NO:1. This DNA will hybridize to SEQ ID NO:1 by virtue of the natural affinity all DNA has for other DNA.

The applicants submit that this rejection is now moot in view of the foregoing amendment to claims and therefore request that the rejection of the claims under 35 U.S.C. § 102(b), be withdrawn and not be extended to new claims 20-41.

III. CONCLUSION

In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any point remains in issue that the examiner feels may be best resolved through a personal or telephone interview, the examiner is strongly urged to contact the undersigned at the telephone number listed below.

Respectfully submitted,

PILLSBURY WINTHROP LLP

By: _____



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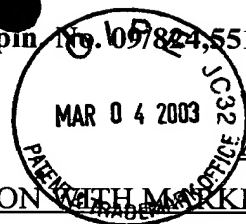
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Enclosure: Appendix



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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE TECH CENTER 1600/290

IN THE TITLE

The title is changed as follows.

[NEW] NUCLEOTIDE SEQUENCES [WHICH CODE FOR THE LUXS GENE]
ENCODING HISTIDINE KINASE FROM CORYNEBACTERIUM GLUTAMICUM

IN THE SPECIFICATION

The specification is changed as follows.

Page 1, line 6, the title is amended as follows:

[Prior art] BACKGROUND OF THE INVENTION.

Page 2, line 1, the title is amended as follows:

[Object of the invention] OBJECT OF THE INVENTION.

Page 2, line 4, the title is amended as follows:

[Description of the invention] BRIEF DESCRIPTION OF THE INVENTION.

Page 4, before line 27, insert the following new paragraph:

--DETAILED DESCRIPTION OF THE INVENTION.

Figure 1: Map of the plasmid pCR2.1 luxSint.

The abbreviations and designations used have the following meaning.

KmR:	Kanamycin resistance gene
EcoRI:	Cleavage site of the restriction enzyme EcoRI
PstI:	Cleavage site of the restriction enzyme PstI
Sall:	Cleavage site of the restriction enzyme Sall
luxSint:	Internal fragment of the luxS gene
ColE1:	Replication origin of the plasmid ColE1.--

Page 26, line 10, delete to end of page.

IN THE CLAIMS

Claims 1-19 were canceled herein and claims 20-41 were introduced herein.

IN THE ABSTRACT OF THE DISCLOSURE

The abstract is changed as follows.

[The invention relates to an isolated polynucleotide comprising a polynucleotide sequence chosen from the group consisting of:

a) a polynucleotide which is identical to the extent of at least 70% to a polynucleotide which codes for a polypeptide which comprises the amino acid sequence of SEQ ID NO. 2,

b) a polynucleotide which codes for a polypeptide which comprises an amino acid sequence which is identical to the extent of at least 70% to the amino acid sequence of SEQ ID NO. 2,

c) a polynucleotide which is complementary to the polynucleotides of a) or b),
and

d) a polynucleotide comprising at least 15 successive nucleotides of the polynucleotide sequence of a), b) or c),

and a process for the fermentative preparation of L-amino acids using coryneform bacteria in which at least the luxS gene is present in attenuated form, and the use of polynucleotides which comprise the sequences according to the invention as hybridization probes.]

--This invention relates to novel polynucleotide sequences encoding histidine kinase from *corynebacterium glutamicum*.--

End of Appendix